SPECIFICATIONS

SPECIFICATIONS FOR WORK

TECHNICAL PROVISIONS

Incorporation of Montana Public Works Technical Specifications.

The Technical Specifications as found in Montana Public Works Standard Specifications (MPWSS), Fifth Edition, March 2003 and 2006 Addendum; are hereby incorporated by reference and made a part of this Contract:

Incorporation of Montana Fish, Wildlife & Parks Technical Specifications and Modifications to MPW Technical Specifications.

In addition to the MPWSS Technical Specifications are the following Montana Fish, Wildlife & Parks Technical Specifications (modifications to MPWSS Technical Specifications).

SECTION 01050 - Field Engineering
SECTION 01450 - Mobilization/Demobilization
SECTION 01750 - Final Cleanup
SECTION 01800 - Erosion and Sediment Control
SECTION 02230 - Street Excavation, Backfill, and Compaction
SECTION 02237 - Pea Gravel
SECTION 02240 - Riprap
SECTION 02241 - Barrier Rock
SECTION 02835 - Signs
SECTION 02910 - Revegetation
SECTION 99995 - Obliterate Existing Roads and 2-Tracks
SECTION 99996 - Remove and Salvage Timber Stairway
SECTION 99997 - Timber Stairway
SECTION 99998 - Relocate Concrete Vault Latrine

SECTION 01050

FIELD ENGINEERING

All applicable portions of this specification section in the MPWSS shall apply with the following additions, deletions and/or modifications.

PART 3 EXECUTION

1.1 CONSTRUCTION SURVEY

A. Project Representative will set initial survey control, including alignment centerline, slope and grade stakes, and temporary benchmarks. Use initial control to perform all required subsequent survey and staking as may be required. Preserve initial control, and replace all control disturbed or lost due to Contractor activities.

PART 4 MEASUREMENT AND PAYMENT

Add the following:

A. Construction Surveying will not be measured for payment and is considered incidental to other work items in this Contract.

END OF SECTION 01050

SECTION 01450

MOBILIZATION/DEMOBILIZATION

Added Section.

PART 1 GENERAL

1.1 DESCRIPTION

A. This item shall consist of the prepatory work and operations necessary performed by the Contractor for the movement of personnel, equipment, supplies, and incidentals to and from the work site. The work includes those actions necessary for obtaining necessary permits required for mobilization; for the establishment of all offices and facilities necessary to work on the project; for premiums on contract bonds; for insurance for the contract; and for other work on the various items on the project site. Mobilization costs for subcontracted work shall be considered to be included.

B. Contractor's cost for administration, bonding, insurance, and site documents shall be included in mobilization and shall not be paid as a separate item.

C. All equipment moved to the project sites shall be in good mechanical condition and free of fuel, oil, lubrication, or other fuel leaks. The Contractor shall immediately remove any equipment potentially or actually discharging environmentally damaging fluids.

D. All equipment moved to the project sites shall be thoroughly cleaned before it is brought to the sites to prevent the introduction of weed seeds. Equipment removed fro the sites may not be returned to the sites again until it is thoroughly cleaned again.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION – NOT USED

PART 4 MEASUREMENT AND PAYMENT

4.1 MEASUREMENT

A. There will be no direct measurement of this item.

4.2 PAYMENT

B. Partial payments for mobilization/demobilization will be made based on the lump sum bid price as follows:

- 25% of the amount bid for mobilization/demobilization when the Contractor has moved on-site and begun construction activities.
- 50% of the amount bid for mobilization/demobilization when 25% of the contract amount (exclusive mobilization/demobilization) has been completed.
- 75% of the amount bid for mobilization/demobilization when 50% of the contract amount (exclusive mobilization/demobilization) has been completed.
- 100% of the amount bid for mobilization/demobilization when 75% of the contract amount (exclusive mobilization/demobilization) has been completed.

END OF SECTION 01450

SECTION 01750

FINAL CLEANUP

Added Section.

PART 1 GENERAL

1.1 DESCRIPTION

A. This work consists of final cleanup of the project site prior to final acceptance.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION

3.1 CONTRACTOR RESPONSIBILITES

The contractor shall be responsible for final clean up at the end of the project to a level satisfactory to the owner. All construction debris, no mater how small, shall be collected and removed from the site. All wheel ruts shall be filled in and be leveled to match the adjacent grade and material. Re-seeding or re-sodding, or other re-surfacing may be necessary to repair any construction related impacts or damage.

All survey markings, stakes, temporary paint marks, flagging and other devices shall be removed regardless of who installed them. All excess pavement, concrete, gravel, soil, or other construction materials not intended for permanent use shall be removed.

All final slopes shall be dressed manually to remove woody debris, accumulated trash and oversized material. Any new slope or topsoil surfaces shall be hand raked to provide a uniform appearance. The contractor shall dress all gravel, pavement and concrete edges to eliminate abrupt edges and provide a smooth transition. All construction related temporary sediment control devices shall be removed as soon as practical.

PART 4 MEASUREMENT AND PAYMENT

4.1 PAYMENT

Unless specifically noted otherwise, all final cleanup work shall be incidental to other work items in the contract and no separate payment shall be made.

END OF SECTION 01750

SECTION 01800

EROSION AND SEDIMENT CONTROL

Added Section.

PART 1 GENERAL

1.1 DESCRIPTION

A. This work consists of furnishing, constructing, and maintaining permanent and temporary erosion control and sediment control measures.

PART 2 PRODUCTS

2.1 GENERAL

A. Temporary and erosion control products utilized include but are not limited to backfill material; berms; brush barriers; erosion control bales, wattles, logs, rolls; erosion control culvert pipe; detention basins; fertilizer; geotextile; mulch; plastic lining; riprap; sandbags; seed; silt fence; and water.

2.2 SEDIMENT RETENTION

A. Provide a sediment retention product made from straw and coconut fiber reinforced with a 100% bio-degradable netting. Use wood stakes to secure sediment retention product in place, spacing per the manufacturer's recommendations. An acceptable product is *Sediment Stop*®, manufactured by *North American Green*, or approved equal.

B. Install sediment retention product according to the erosion control drawings prepared by Contractor, and where directed by the Project Representative.

PART 3 EXECUTION

3.1 INSTALLATION

A. Provide permanent and temporary erosion control measures to minimize erosion and sedimentation during and after construction according to the contract erosion control plan, environmental permits, and as directed by the Project Representative. These erosion control measures shall be designed, implemented, and maintained by the Contractor in accordance with Best Management Practices (BMPs) to control erosion and sediment release from the work site.

B. Install permanent and temporary erosion control measures according to the Storm Water Pollution Prevention Plan (SWPPP), if applicable, approved construction permits, and erosion control drawings.

C. When erosion control measures are not functioning as intended, immediately take corrective action.

PART 4 MEASUREMENT AND PAYMENT

4.1 PAYMENT

A. Erosion and Sediment Control will be measured and paid for by the linear foot (LF), including all labor, equipment, materials, and incidentals required for the completion of the work.

END OF SECTION 01800

SECTION 02230

STREET EXCAVATION, BACKFILL AND COMPACTION

All applicable portions of this specification section in the MPWSS shall apply with the following additions, deletions and/or modifications.

PART 1 GENERAL

1.3 DENSITY CONTROL TESTING

A. FIELD DENSITY TESTING

Delete this section and add the following:

In-place field density tests for quality assurance are at Contractors expense meeting AASHTO T238 (ASTM D2922) and AASHTO T239 (ASTM D3017), Nuclear Densometer Methods. Quality assurance field density testing frequency is once per compacted lift, or as directed by Engineer.

Retesting of failing areas is at the expense of the Contractor.

B. LABORATORY MAXIMUM DENSITY and OPTIMUM MOISTURE

Delete this section and add the following:

Quality assurance tests will be made by the Contractors independent testing laboratory for each on-site natural soil or each source of off-site material, including borrow material, to determine the laboratory maximum density values and optimum compaction moisture content under AASHTO T99 or ASTM D698.

PART 3 EXECUTION

3.1 CLEARING AND GRUBBING

Add the following:

Obtain necessary burning permits if cleared and grubbed material is burned on site. All stumps within construction limits shall be grubbed under this contract.

3.4 EXCAVATION

Add the following:

The Contractor is advised that due to shale and similar rock formations that may be encountered at shallow depth, difficult excavation conditions may be encountered, with no additional payment being made for associated costs.

Sheeting, Shoring, and Bracing: Except where trench banks are cut back on a stable slope, provide and maintain all sheeting, shoring, and bracing necessary to protect workers, and to protect adjoining grades and structures from caving, sliding, erosion or other damage in accordance with Occupational Safety and Health Standards (29 CFR Part 1926 – Construction Standards for Excavations), the Site Specific Health and Safety Plan, and other applicable codes and governing authorities.

PART 4 MEASUREMENT AND PAYMENT

4.1 METHOD OF MEASUREMENT AND PAYMENT

Delete this section and add the following:

A. CLEARING AND GRUBBING

1. Clearing and grubbing will not be measured for payment and is considered incidental to other work items in this Contract.

B. EXCAVATION AND EMBANKMENT

1. Excavation and embankment will be measured and paid by the lump sum (LPSM).

END OF SECTION 02230

SECTION 02237

PEA GRAVEL

Added Section.

PART 1 GENERAL

1.1 DESCRIPTION

A. This work consists of furnishing, placing, and finishing pea gravel placement at designated areas on the project drawings or as directed by the Project Representative.

PART 2 PRODUCTS

2.1 PEA GRAVEL GRADATION

A. Furnish pea gravel that is rounded to sub-rounded aggregate as shown in Table 1:
B. The pea gravel material must be non-plastic. A minim of 70 percent by weight of the pea gravel must have at least one fractured face.

Table 1. Pea Gravel Gradation

Sieve Size	Percent Passing
3/8 inch	95-100
No. 4	0-30
No. 8	0-15
No. 200	0-2

PART 3 EXECUTION

3.1 GENERAL

A. Install pea gravel according to the project drawings or as directed by the Project Representative.

PART 4 MEASUREMENT AND PAYMENT

4.1 GENERAL

A. Pea gravel placement will be not be measured for payment and is considered incidental to other work items in this Contract.

END OF SECTION 02237

SECTION 02240

RIPRAP

Added Section.

PART 1 GENERAL

1.1 DESCRIPTION

A. This work consists of conserving and/or furnishing, placing, and finishing riprap rock placement at designated areas on the project drawings or as directed by the Project Representative.

PART 2 PRODUCTS – NOT USED

2.1 RIPRAP GRADATION

A. Furnish hard, durable, angular rock that is resistant to weathering and water action and free of organic or other unsuitable material. Do not use shale, rock with shale seams, or other fissle or fissured rock that may break into smaller pieces in the process of handling and placing. Incorporate the following gradation for riprap installations as shown in Table 1:

Table 1. Riprap Gradation

Percent of Rock by Mass	Equivalent Spherical Diameter (inches)
20	10 - 12
40	7 - 9
30	4 - 6
10	0 to 4

B. Furnish stabilization geotextile in conformance with MPWSS Section 02110, Geotextiles.

PART 3 EXECUTION

3.1 GENERAL

A. Prior to placing riprap, cover area with stabilization geotextile, in accordance with MPWSS Section 02110, Geotextiles. Place riprap to form a well-graded mass to its full thickness in operation to avoid displacing the underlying geotextile or other material. Do not place riprap material by methods that cause segregation or damage to the prepared surface. Place or rearrange individual rocks by mechanical or hand methods to obtain a dense uniform blanket with a reasonably smooth surface.

B. Install conserved and/or imported riprap according to the project drawings or as directed by the Project Representative.

PART 4 MEASUREMENT AND PAYMENT

4.1 GENERAL

A. Riprap – 12” Thick, including furnishing and placing stabilization geotextile, will be measured for and paid for by the square yard (SY).

END OF SECTION 02240

SECTION 02241

BARRIER ROCKS

Added Section.

PART 1 GENERAL

1.1 DESCRIPTION

A. This work consists of furnishing and placing barrier rocks at designated areas on the project drawings or as directed by the Engineer.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION

3.1 GENERAL

A. Furnish hard, durable, angular barrier rock that is resistant to weathering and water action and free of organic or other unsuitable material. Do not use shale, rock with shale seams, or other fissured rock that may break into smaller pieces in the process of handling and placing.

B. Furnish barrier rocks that approximately measure 8 cubic feet (2.5 – 3.5 feet in nominal diameter as measured on the long axis). Embed barrier rocks 1/3 of the diameter below finished or existing grade. Backfill around embedded barrier rocks by tamping with hand tools and/or mechanical equipment. Space barrier rocks at 5 feet clearance as measured from edge to edge.

C. Install barrier rocks according to the project drawings or as directed by the Engineer.

PART 4 MEASUREMENT AND PAYMENT

4.1 PAYMENT

A. Barrier rock placement will be measured and paid for by the each (EACH).

END OF SECTION 02241

SECTION 02835

SIGNS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Furnishing all sign mounting materials except the signs themselves, erection, installation, fittings, hardware, posts, foundations, etc. meeting the requirements of the Plans, Standard Drawings, Specifications, and as directed. All signs will be supplied to the Contractor on site by the Owner.

B. Materials

C. Construction methods

1.2 MEASUREMENT AND PAYMENT

A. Single Post Sign

1. Basis of Measurement: Sign mountings shall be measured on a complete sign unit basis.

2. Basis of Payment: Payment shall be made for the counted quantity of completed and accepted sign units at the contract bid price per each. Such payment shall be full compensation for all materials, labor, services, and equipment necessary or incidental to the Construction of each completed unit.

B. Double Post Sign

1. Basis of Measurement: Sign mountings shall be measured on a complete sign unit basis.

2. Basis of Payment: Payment shall be made for the counted quantity of completed and accepted sign units at the contract bid price per each. Such payment shall be full compensation for all materials, labor, services, and equipment necessary or incidental to the Construction of each completed unit.

PART 2 PRODUCTS

2.1 MATERIALS

A. Treated Posts: All treated posts shall be a minimum 5" diameter or 4" square. They shall be straight, sound and shall have no bark, checking or other significant blemishes. They shall be full-length pressure treated with an ACA or CCA solution to meet AWPA specifications. All cuts, scars, or boreholes shall be treated with preservative.

B. Portland Cement: ASTM C150 All Portland Cement will be Type I or II.

PART 3 EXECUTION

3.1 CONSTRUCTION METHODS

A. All signs shall be located and erected as shown on the Plans and in accordance with MDT Detail Drawing 619-00 (attached), except the Project Manager may change a sign location where necessary to secure an acceptable location. Signs shall be erected so the sign face is truly vertical and perpendicular to the road or approach.

B. Post or foundation holes shall be augured or dug a minimum of eight inches larger than the largest diameter of the post or pole to be placed in it. In backfilling the holes for sign posts or poles, the Contractor shall thoroughly mix with the material from the hole with Portland Cement in the ratio of one part cement to ten parts of the material from the hole. Enough water shall be added to make a soil-cement mixture capable of achieving satisfactory compaction. No mixing shall be done in the hole. Backfill shall be placed in lifts of six inches in thickness and thoroughly compacted.

C. It shall be the Contractor's responsibility to have utilities located before setting posts. Contact the Project Manager if there are any conflicts.

D. Bolts shall not be located in the lettering or in the symbol but shall be located in the background colors.

Bolt heads shall be painted with the same color of paint as used on the sign background. Extreme care must be exercised to avoid getting the sign dirty or otherwise damaged. Signs with excessive damage or bolts located in the lettering or symbol shall be rejected and the replacement costs deducted from the contract price.

END OF SECTION 02835

SECTION 02910

REVEGETATION

All applicable portions of this specification section in the MPWSS shall apply with the following additions, deletions and/or modifications.

PART 1 GENERAL

1.1 DESCRIPTION

Add following:

This work also includes conserving, placing, and finishing topsoil placement at designated areas on the project drawings, including areas disturbed by construction activities and obliterated existing roads and two-track trails, or as directed by the Engineer.

PART 2 PRODUCTS

2.1 SEED

Add the following:

Utilize the following seed mix for all areas to be seeded.

Seed Name	% Pure Live Seed	Lbs. Per Acre
Western Wheatgrass	30	*
Bluebunch Wheatgrass	20	*
Hard Fescue	20	*
Slender Wheatgrass	15	*
Smooth Bromegrass	15	*

* Drilled Rate = 8 lbs/acre, Broadcast and Hydroseed Rate = 16 lbs/acre

2.2 TOPSOIL

Add the following:

Utilize all salvaged topsoil conserved from clearing and grubbing operations to cover excavation and embankment slopes prior to fertilizing, seeding, or mulching.

2.4 FERTILIZER

Add the following:

When broadcast seeding, apply the fertilizer separately. When drill seeding, do not apply seed and fertilizer in a single mixture. The fertilizer must be applied separately, either broadcast before seed application, or surface banded during seeding.

PART 4 MEASUREMENT AND PAYMENT

4.1 GENERAL

Delete this section and add the following:

A. Revegetation will not be measured for payment and will be paid by the lump sum (LPSM) including all labor, equipment, materials and incidentals required for the completion of the work.

B. Placing conserved topsoil will not be measured for payment and is considered incidental to other work items in this Contract.

END OF SECTION 02910

SECTION 99995

OBLITERATE EXISTING ROADS

Added Section.

PART 1 GENERAL

1.1 DESCRIPTION

A. This work consists of obliterating existing roads and 2-track trails designated by Project Representative, and restoring to natural grades.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION

3.1 GENERAL

Scarify or rip existing ground across width of roads and 2-tracks to a depth of four to six inches. Grade surface to blend into adjacent topography. Where needed, supplement grading with fill material to fill in ruts, holes and other objectionable low spots.

PART 4 MEASUREMENT AND PAYMENT

4.1 GENERAL

A. Obliterate Roads and 2-Tracks will be measured and paid for by the Lump Sum (LPSM), including all labor, equipment, materials, and incidentals required for the completion of the work.

END OF SECTION 99995

SECTION 99996

REMOVE AND SALVAGE TIMBER STAIRWAY

Added Section.

PART 1 GENERAL

1.1 DESCRIPTION

A. This work consists of removal, salvage and stockpiling of timber stairway, site restoration, (grading and leveling), landscaping and other work for removal and salvage of an existing Fishing Access Site (FAS) timber stairway, associated with an existing vault latrine to be relocated.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION

3.1 GENERAL

Remove, salvage and stockpile, where indicated by the Project Representative, the existing timber stairway associated with the vault latrine to be relocated.

3.2 REMOVE AND SALVAGE EXISTING STAIRWAY

Disassemble existing timber stairway with care and salvage timbers in good condition to Owner. Remove connecting steel pins or cut off flush with surface of timbers. Transport reuseable timbers to location indicated by Project Representative within project site and neatly stack in a stockpile.

3.3 DISPOSAL OF GRAVEL INFILL AND DEBRIS

Timbers in nonreuseable condition and other deris shall be removed from the site and disposed of in a legal manner by the contractor. Gravel and soil infill from the stairway can be used as fill material in the pit vacated by the relocated vault latrine.

3.4 LANDSCAPING

Areas disturbed by removal of stairway shall be hand raked to removed exposed rocks over one-inch in maximum dimension. Oversize rocks removed from the surface shall be disposed of off-site or with the approval of the Project Representative used as fill in other items in the contract.

PART 4 MEASUREMENT AND PAYMENT

4.1 GENERAL

A. Remove & Salvage Timber Stairway will be measured and paid for by the Lump Sum (LPSM) including all labor, equipment, materials, and incidentals required for the completion of the work.

END OF SECTION 99996

SECTION 99997

TIMBER STAIRWAY

Added Section.

PART 1 GENERAL

1.1 DESCRIPTION

A. This work consists of constructing timber stairways incorporating timbers salvaged from removal of an existing, onsite stairway and providing new materials as needed to complete the work.

PART 2 PRODUCTS

A. Timbers.

1. Use timbers salvaged from removal of an existing, onsite stairway and new timbers of same type as existing.

B. Connection Pins.

1. Use 3/8" diameter x 12" long galvanized steel spikes and 16" long No. 5 reinforcing steel dowel bars.

C. Gravel Infill.

1. See ¾" Minus Crushed Base Course Material, Subsection 02235

PART 3 EXECUTION

3.1 GENERAL

Construct timber stairways to the lines and grades as noted in the specifications and drawings.

3.2 PREPARE SUBGRADE

Construct terraced subgrade to receive timbers. Excavate or place fill as required to achieve required subgrade lines and grades. Place fill in six-inch loose lifts and compact with a minimum of two passes with a whacker-type mechanical compactor or equivalent approved by the Project Representative. Construct individual step terraces such that plan dimensions do not exceed lengths of timbers, and such that all finished step widths (i.e. step dimension measured in direction of travel) will be uniform along the length of the stairway. Shorten

step widths as needed based on overall slope of stairway, but width shall not be less than 18 inches unless approved otherwise by the Project Representative.

3.3 INSTALLATION OF TIMBERS

Install timbers to construct stairway framework. Cut to length as needed. Install timbers to be level within ¼" vertical over 3 feet horizontal. Predrill slightly undersized pilot holes in timbers for connection pins. Depth of pilot holes to be equivalent to length of pins. Install pins and drive until flush with timber surface. At timbers placed directly on subgrade, install a No. 5 rebar connection pin at each end of timber and drive into subgrade.

3.4 GRAVEL INFILL

Fill interior of stair treads with ¾" Minus Crushed Base Course material. Place in six-inch loose lifts and compact with a minimum of two passes with a whacker-type mechanical compactor or equivalent approved by the Project Representative. Finish surface of infill to be flush with perimeter timbers.

PART 4 MEASUREMENT AND PAYMENT

4.1 GENERAL

A. Timber Stairway will be measured and paid for by the linear foot (LF), measured horizontally and in direction of travel, including all labor, equipment, materials, and incidentals required for the completion of the work.

END OF SECTION 99997

SECTION 99998

RELOCATE CONCRETE VAULT LATRINE

Added Section.

PART 1 GENERAL

1.1 DESCRIPTION

A. This work consists of site preparation (excavation and leveling), backfilling and compaction, landscaping and other work for relocation of an existing Fishing Access Site (FAS) pre-cast concrete vault latrine to an area designated on the project drawings or as directed by the Project Representative.

PART 2 PRODUCTS

2.1 MATERIALS

A. Pre-Cast Concrete Vault Latrine.

1. An existing vault latrine is presently in place near the new Southwest Loop area, and is to be removed, salvaged in good condition and relocated. Prior to relocation by Contractor, Montana Department of Fish, Wildlife and Parks will have the vault contents pumped out.

B. Gravel Bedding for Latrine.

1. See Pea Gravel, Subsection 02237

PART 3 EXECUTION

3.1 GENERAL

The new latrine location shall be staked in the field by the Project Representative. Refer to the project drawings for pre-cast concrete vault toilet installation locations, details, and dimensions.

3.2 REMOVE EXISTING LATRINE

A. Disassemble existing latrine as required for removal and relocation. Excavate as necessary for removal of vault portion. Remove latrine components and relocate to designated new location. Backfill excavation with clean, general fill, or other materials as may be approved by the Project Representative. Place backfill in six-inch loose lifts, and compact with a minimum of three passes with a whacker-type mechanical

compactor or equivalent approved by the Project Representative. Perform landscaping of finish grade in accordance with Paragraph 3.10 of this special provision.

B. Specialized equipment and services for removal and relocation of latrine may be acquired from Flathead Concrete Products, Attn Ric Reed, 2940 Hwy 2 East, Kalispell, MT 59901, (406) 752-4259

3.3 EXCAVATION

Excavate for the installation of the toilet vault to a depth that will allow the structure site to be free draining after installation is completed. Salvage conserved topsoil.

3.4 FINISH FLOOR ELEVATION

Finish floor elevation shall be a minimum of 4 to 6 inches above natural grade measured at the front entrance.

3.5 COMPACTION OF EARTH UNDER TOILET VAULTS

Prior to installation of the toilet building, compact the natural ground underlying the vault with a minimum of three passes with a whacker-type mechanical tamper or equivalent approved by the Project Representative.

3.6 INSTALLATION OF GRAVEL BEDDING UNDER TOILET VAULTS

Install 12 inches of compacted gravel bedding material for leveling course. Compact leveling course with one pass with a whacker-type mechanical tamper or equivalent approved by the Project Representative. Grade level course so there will be no high spots in middle of vault bottom. Finished leveling course shall not vary more than 0.01 foot for the four corners of the vault.

3.7 BACKFILL AND DISPOSAL OF DEBRIS

Backfill around structures, including under exterior slab. Use excavated material for backfill except that rocks larger than six inches in maximum dimension shall not be placed within six inches of exterior of vault walls. Stumps, roots, brush, and other vegetation shall be removed from the site and disposed of in a legal manner by the contractor.

3.8 ENTRANCE SLAB AND COMPACTION BENEATH

Fill under entrance slab shall have excavated material placed in six-inch loose lifts, and compacted with a minimum of two passes with a whacker-type mechanical compactor or equivalent approved by the Project Representative. Construct a new concrete entrance slab of same dimensions as existing.

3.9 FILL AROUND LATRINES AND SLAB

Spread excess excavated material from vault around structure. Final backfill surface shall be flush with the top of the front slab. Allowance shall be made for the depth of the topsoil. Grade backfill away from structure at maximum slope of five percent unless otherwise noted in the plans or specs or approved by the Project Representative.

3.10 LANDSCAPING

Spread conserved topsoil as final 2" layer after rough grading is completed. Areas disturbed by excavation, backfilling, and stockpiling of excavated materials shall be hand raked to removed exposed rocks over one-inch in maximum dimension. Oversize rocks removed from the surface shall be disposed of off-site or with the approval of the Project Representative used as fill in other items in the contract.

3.11 HIDDEN GROUND CONDITION

If the contractor uncovers bedrock, boulders too big to remove, ground water or other unexpected conditions, he shall immediately contact the Project Representative for instructions.

3.12 TEMPORARY FENCING

A. All excavations left open overnight shall be fenced with polyethylene plastic safety fence, orange color, 48" high, and 4" maximum mesh openings. Fencing shall be secured to steel posts on the side away from the excavation unless otherwise approved in advance by the Project Representative.

1. The bottom of the fence shall generally follow the contour of the ground.

2. Maximum spacing of the steel posts shall be ten feet.

B. No excavations will be left open more than seven days unless otherwise approved by the Project Representative.

3.13 PATHWAYS

A. Construct a pathway between each latrine installation and the adjacent roadway or parking area. Requirements of each pathway are as follows:

1. Pea gravel per Subsection 02237 shall be used for all pathway surfaces.

2. Construct pathways that follow existing ground contours as much as possible. Limit excessive excavation and embankment.

3. Cross slopes on the pathway shall be 1%.

4. The running slope of the pathway shall not exceed 5%.

5. Slopes will be checked using a 3' level.

6. Ridges or other sudden changes in slope shall not exceed of 1/2". The top surface of the path shall match the top surface of the Vault Latrine Slab within 1/2".

PART 4 MEASUREMENT AND PAYMENT

4.1 GENERAL

A. Relocate FAS Latrine will be measured and paid for by the Lump Sum (LPSM) including all labor, equipment, materials, and incidentals required for the completion of the work.

END OF SECTION 99998

SPECIFICATIONS FOR WORK

SPECIAL PROVISIONS

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1. PROJECT DESCRIPTION

The Project involves construction work associated with Newlan Creek Reservoir Fishing Access Site (FAS), Fish, Wildlife & Parks (FWP) project # 7113714, located in Meagher County, MT as identified in the project drawings. The project generally includes new parking area and access road construction involving clearing and grubbing, excavation/embankment construction, gravel base course and surfacing, conserved topsoil placement, timber retaining wall construction, vault latrine relocation and incidentals.

2. PROJECT RELATED CONTACTS

Project contacts are designated as follows:

Owner:
Bardell Mangum
Montana FWP
1420 E. Sixth Ave.
PO Box 200701
Helena, MT 59620-0701

Project Representative:
Colt Wise, P.E.
Pioneer Technical Services
201 E. Broadway, Ste. C
Helena, MT 59601
406-457-8252 (wk)
406-439-5578 (cell)
406-442-1158 (fax)

3. SITE INSPECTION

All Bidders should satisfy themselves as to the construction conditions by personal examination of the site described in this document. Bidders are encouraged to make any investigation necessary to assess the nature of the construction and the difficulties to be encountered.

4. SOILS INFORMATION

Geotechnical investigation work has not been done for this Project. It is the responsibility of the Contractor to conduct all investigations and determine the soil type and digging conditions that may be encountered with this Project prior to bid preparation. **Contractor is advised that shale or similar rock conditions may be encountered at shallow depths during grading and excavation.**

5. PROJECT REPRESENTATIVE, INSPECTIONS, AND TESTING

The Contractor's work will be periodically tested and observed to insure compliance with the Contract Documents. Complete payment will not be made until the Contractor has demonstrated that the work is complete and has been performed as required. If the Project Representative detects a discrepancy between the work and the requirements of the Contract Documents at any time, up to and including final inspection, such work will not be completely paid for until the Contractor has corrected the deficiency.

The Project Representative will periodically monitor the construction of work to determine if the work is being performed in accordance with the contract requirements. The Project Representative does not have the authority or means to control the Contractor's methods of construction. It is, therefore, the Contractor's responsibility to utilize all methods, equipment, manpower, and other

means necessary to assure that the work is installed in compliance with the Drawings and Specifications, and laws and regulations applicable to the work. Any discrepancies noted shall be brought to the Contractor's attention, who shall immediately correct the discrepancy. Failure of the Project Representative to detect a discrepancy will not relieve the Contractor of his ultimate responsibility to perform the work as required.

The Contractor shall inspect the work as it is being performed. Any deviation from the Contract requirements shall be immediately corrected. Prior to any scheduled observation by the Project Representative, the Contractor shall again inspect the work and certify to the Project Representative that he has inspected the work and it meets the requirements of the Contract Documents. All buried work items shall be inspected by the Project Representative prior to backfilling, or may not be considered for payment.

The work will be subject to review by the Project Representative. The results of all such observations shall be directed to the Contractor only through the Project Representative.

5.1 Services Provided by the Contractor. The Contractor shall provide the following services:

a. Any field surveys to establish locations, elevations, and alignments as stipulated on the Plans. FWP reserves the right to set preliminary construction staking for the project. The Contractor is responsible to notify FWP for any construction staking discrepancies.

b. Preparation and certification of all required shop drawings and submittals as described in the General Conditions.

c. All tests requiring the services of a laboratory to determine compliance with the Contract Documents shall be performed by an independent commercial testing laboratory acceptable to the Project Representative. The laboratory shall be staffed with experienced technicians properly equipped, and fully qualified to perform the tests in accordance with the specified standards.

f. The Contractor shall provide the Project Representative with a written schedule indicating dates for specific testing and inspection services to be performed. The schedule shall be updated as required to give the Project Representative at least one week's advance notice. The Contractor shall notify the Project Representative immediately of any change or shall be subject to pay Project Representativeing fees as herein defined.

5.2 Services Provided by the Owner. The Owner shall provide the following services at no cost to the Contractor except as required for retests as defined in the Contract Documents.

a. The Project Representative may check compaction of backfill and surfacing courses using Proctor information supplied by the Contractor. These tests are to determine if compaction requirements are being fulfilled in accordance with the Contract Documents. It is ultimately the responsibility of the Contractor to insure that this

level of compaction is constant and met in all locations.

6. ENGINEERING INTERPRETATIONS

Timely Engineering decisions on construction activities or results have an important bearing on the Contractor's schedule. When engineering interpretation affects a plan design or specifications change, it should be realized that more than 24 hours may be required to gain the necessary Owner participation in the decision process including time for formal change order preparation as required.

7. REJECTED WORK

Any defective work or nonconforming materials or equipment that may be discovered at any time prior to the expiration of the warranty period, shall be removed and replaced with work or materials which shall conform to the provisions of the Contract Documents. Any material condemned or rejected shall be removed at once from the project site. Failure on the part of the Project Representative to condemn or reject bad or inferior work or to note nonconforming materials or equipment on the Contractors submittals shall not be construed to imply acceptance of such work. The Owner shall reserve and retain all its rights and remedies at law against the Contractor and its Surety for correction of any and all latent defects discovered after the guarantee period.

The Project Representative will have the authority to reject work which does not conform to the Contract Documents and will provide the Owner with a list of defective work and nonconforming materials or equipment. The Owner will then promptly provide the Contractor with the list of defective work on nonconforming materials or equipment.

8. UTILITIES

The exact locations of existing underground utilities that may conflict with the work are not precisely known. It shall be the Contractor's responsibility to contact the owners of the respective utilities and arrange for field location services. **One Call Locators, 1-800-424-5555**

8.1 Notification. The Contractor shall contact, in writing, all public and private utility companies that may have utilities that may be encountered during excavation. The notification includes the following information:

a. The nature of the work that the Contractor will be performing.
b. The time, date and location that the Contractor will be performing work that may conflict with the utility.
c. The nature of work that the utility will be required to perform such as moving a power pole, supporting a pole or underground cable, etc.
d. Requests for field location and identification of utilities.

A copy of the letter of notification shall be provided to the Project Representative. During the course of construction, the Contractor shall keep the utility companies notified of any change in schedule or nature of work that differs from the original

notification.

8.2 Identification. All utilities that may conflict with the work shall be the Contractor's responsibility to locate before any excavation is performed. Field markings provided by the utilities shall be preserved by the Contractor until actual excavation commences. All utility locations on the Drawings should be considered approximate and should be verified in the field by the Contractor. The Contractor shall also be responsible for locating all utilities that are not located on the Drawings.

8.3 Removal or Relocation of Utilities. All electric power, street lighting, gas, telephone, and television utilities that require relocation will be the responsibility of the utility owner. A request for extending the specified contract time will be considered if utility owners cause delays.

8.4 Public Utilities. Water, sewer, storm drainage, and other utilities owned and operated by the public entities shall, unless otherwise specifically requested by the utility owner, be removed, relocated, supported or adjusted as required by the Contractor at the Contractor's expense. All such work shall be in accordance with these Specifications, or the Owner's Standard Specifications or written instructions when the work involved is not covered by these Specifications.

8.5 Other Utilities. Utilities owned and operated by private individuals, railroads, school districts, associations, or other entities not covered in these Special Provisions shall, unless otherwise specifically requested by the utility owner, be removed, relocated, supported or adjusted as required by the Contractor at the Contractor's expense. All work shall be in accordance with the utility owner's directions, or by methods recognized as being the standard of the industry when directions are not given by the owner of the utility.

8.6 Damage to Utilities and Private Property. The Contractor shall protect all utilities and private property and shall be solely responsible for any damage resulting from his construction activities. The Contractor shall hold the Owner and Project Representative harmless from all actions resulting from his failure to properly protect utilities and private property. All damage to utilities shall be repaired at the Contractor's expense to the full satisfaction of the owner of the damaged utility or property. The Contractor shall provide the Owner with a letter from the owner of the damaged utility or property stating that it has been repaired to the utility owner's full satisfaction.

8.7 Structures. The Contractor shall exercise every precaution to prevent damage to existing buildings or structures in the vicinity of his work. In the event of such damages, he shall repair them to the satisfaction of the owner of the damaged structure at no cost to the Owner.

8.8 Overhead Utilities. The Contractor shall use extreme caution to avoid a conflict, contact, or damage to overhead utilities, such as power lines, streetlights, telephone

lines, television lines, poles, or other appurtenances during the course of construction of this project.

8.9 Buried Gas Lines. The Contractor shall provide some means of overhead support for buried gas lines exposed during trenching to prevent rupture in case of trench caving.

8.10 Pavement Removal. Where trench excavation or structure excavation requires the removal of curb and gutter, concrete sidewalks, or asphalt or concrete pavement, the pavement or concrete shall be cut in a straight line parallel to the edge of the excavation by use of a spade-bitted air hammer, concrete saw, colter wheel, or similar approved equipment to obtain a straight, square clean break. Pavement cuts shall be 2 feet wider than the actual trench opening.

8.11 Survey Markers and Monuments. The Contractor shall use every care and precaution to protect and not disturb any survey marker or monuments, such as those that might be located at lot or block corners, property pins, intersection of street monuments or addition line demarcation. Such protection includes markings with flagged high lath and close supervision. No monuments shall be disturbed without prior approval of the Project Representative. Any survey marker or monument disturbed by the Contractor during the construction of the project shall be replaced at no cost to the Owner by a licensed land surveyor.

8.12 Temporary Utilities. The Contractor shall provide all temporary electrical, lighting, telephone, heating, cooling, ventilating, water, sanitary, fire protection, and other utilities and services necessary for the performance of the work. All fees, charges, and other costs associated therewith shall be paid for by the Contractor.

The Contract Plans may show utility locations based on limited field observation and information provided to the Project Representative by others. **The Project Representative cannot guarantee their accuracy.** The Contractor shall immediately notify the Project Representative of any discrepancies with utility locations as shown on the Contract Drawings and/or their bury depths that may in any way affect the intent of construction as scoped in these specifications.

There will be no separate payment for exploratory excavation required to locate underground utilities.

9. CONSTRUCTION SAFETY

The Contractor shall be solely and completely responsible for conditions of the jobsite, including safety of all persons (including employees) and property during performance of the work. This requirement shall apply continuously and not be limited to normal working hours. Safety provisions shall conform to U.S. Department of Labor (OSHA), and all other applicable federal, state, county, and local laws, ordinances, codes, and regulations. Where any of these are in conflict, the more stringent requirement shall be followed. The Contractor's failure to thoroughly familiarize himself with the aforementioned safety provisions shall not relieve him from compliance with the obligations and penalties set forth therein.

10. CONSTRUCTION LIMITS AND AREAS OF DISTURBANCE

10.1 Construction Limits. Where construction easements or property lines, are not specifically called out on the Plan Drawings, limit the construction disturbance to 10 feet when measured from the edge of the slope stake grading, or to the adjacent property line, whichever is less. Disturbance and equipment access beyond this limit is not allowed without the written approval of both the Project Representative and the owner of the affected property. If so approved, disturbance beyond construction limits shall meet all requirements imposed by the landowner; this includes existing roads used and/or improved as well as the construction of new access roads. Special construction, reclamation, or post-construction road ripping or other closure provisions required by the landowner on access roads beyond the construction limits shall be performed by the Contractor at no additional cost to the Owner.

10.2 Areas of Disturbances. Approved areas of disturbance are those areas disturbed by construction activities within the construction limits and along designated or approved access routes. Such areas may require reclamation and revegetation operations, including grading to the original contours, top soiling with salvaged or imported topsoil, seeding, fertilizing, and mulching as specified herein. Other areas that are disturbed by the Contractor's activities outside of the limits noted above will be considered as site damage or unapproved areas of disturbance subject to Repair and Replacement Quality as specified in the General Conditions. This includes areas selected by the Contractor outside the defined construction limits for mobilization, offices, equipment, or material storage.

11. PROTECTION OF ADJACENT IMPROVMENTS

Retain and protect all adjacent improvements not called for removal on the drawings. Restore all damaged items to pre-existing condition.

12. TREE PROTECTION AND PRESERVATION

The Contractor and the Owner shall individually inspect all trees within the project construction limits prior to construction. The Owner shall determine which trees are to be removed and which trees are to be preserved. Construction of the grading, utilities and various roadway facilities must not, in the opinion of the Project Representative, significantly damage the trees root system or hinder it’s chances for survival. Reasonable variations from the plans, as determined by the Project Representative, may be employed to ensure the survival of trees.

13. CONSTRUCTION SURVEYS

The Contractor will be responsible for all layout and construction staking utilizing the Project Representative’s existing control and coordinate data for the project. Dimensions and elevations indicated in layout of work shall be verified by the Contractor. Discrepancies between Drawings, Specifications, and existing conditions shall be referred to the Project Representative for adjustment before work is performed. The Project Representative may set location and grade stakes (centerline stakes at 50 ft intervals, pc’s, pt’s) prior to construction; however, it is

ultimately the responsibility of the Contractor to check and verify all construction staking for the project.

Existing survey control (horizontal and vertical) has been set for use in the design and ultimately the construction of these improvements. A listing of the coordinates and vertical elevation for each of these control points may be included in the project drawings.

The Contractor will be responsible for preserving and protecting the survey control until proper referencing by the Contractor has been completed. Any survey control obliterated, removed, or otherwise lost during construction will be replaced at the Contractor's expense.

Contractor shall be aware of property pins and survey monuments. Damage to these pins will require replacement of such by a registered land surveyor at no cost to the owner.

The Contractor is responsible for the location and elevation of all the construction contemplated by the Contract Documents.

The Contractor shall provide construction staking from the Contractor's layouts and the control points. Contractor's construction staking includes at a minimum:

1. Slope stakes located at critical points as determined by the Project Representative.
2. Blue tops longitudinally and transversely for subgrade and crushed base to verify finish grading of course.
3. Location and grade stakes for drainage features and retaining walls.
4. Location stakes for roadside safety items, permanent and temporary traffic control, and misc. items as determined by the Project Representative.

Prior to commencing work, the Contractor shall carefully compare and check all drawings, each with the other that in any way affects the location or elevation of the work to be executed by him, and should any discrepancy be found, he shall immediately report the same to the Project Representative for verification and adjustment. Any duplication of work made necessary by failure or neglect on his part to comply with this function shall be done at his sole expense.

Original field notes, computations and other records taken by the Contractor for the purpose of quantity and progress surveys shall be furnished promptly to the Project Representative and shall be used to the extent necessary in determining the proper amount of payment due to the Contractor.

These field notes, computations and other records shall be neat and orderly. Field notes shall be complete and in a standard format approved by the Project Representative. Unless waived in each specific case, all quantity surveys made by the Contractor shall be made under the direct supervision of the Project Representative.

14. MATERIAL SOURCES AND CONSTRUCTION WATER

The Contractor shall be responsible for locating all necessary material sources, including aggregates, earthen borrow and water necessary to complete the work. The Contractor shall be responsible for meeting all transportation and environmental regulations as well as paying any royalties. The Contractor shall provide the Project Representative with written approvals of landowners from whom materials are to be obtained prior to approval.

The Contractor may use materials from any source, providing the materials have been tested through representative samples and will meet the Specifications.

Water for compaction efforts shall be supplied by the Contractor.

15. MATERIALS SALVAGE AND DISPOSAL

If the Owner requests to salvage material removed from the project, notify the Owner within 24 hours prior to delivery at a specific location approved by the Owner.

Haul and waste all excavated material to a legal site and obey all state, county, and local disposal restrictions and regulations.

16. STORED MATERIALS

Contractor shall use an approved storage area for materials. Materials and/or equipment purchased by the Contractor may be paid for on a monthly basis providing invoices for said materials and equipment are presented to the Project Representative, and such materials have been approved through the submittal process are stored and insured.

17. STAGING AND STOCKPILING AREAS

Contractor shall use staging and stockpiling sites for temporary traffic control devices and equipment as approved by the Owner. Contract drawings may show approved staging and stockpiling locations. Notify Owner within 24 hours for approval of staging and stockpiling sites not shown on the contract drawings.

18. SECURITY

The Contractor shall provide all security measures necessary to assure the protection of equipment, materials in storage, completed work, and the project in general.

19. CLEANUP

Cleanup for each item of work shall be fully completed and accepted before the item is considered final. If the Contractor fails to perform cleanup within a timely manner the Owner

reserves the right to shut down construction activities.

20. ACCESS DURING CONSTRUCTION

Provide access to all public and private roadways and approaches along the project throughout the construction period.

21. CONSTRUCTION TRAFFIC CONTROL

The contractor is responsible for providing safe construction and work zones within the project limits by implementing the rules, regulations, and practices of the Manual on Uniform Traffic Control Devices, current edition.

22. SANITARY FACILITIES

On-site toilet facilities for employees of Contractor and Subcontractors shall be provided and maintained in a sanitary condition.

23. RECORD DRAWINGS

The Contractor's Superintendent shall maintain at the project site, a "Record Set of Drawings" showing field changes, as-built elevations, unusual conditions encountered during construction, and such other data as required to provide the Owner with an accurate "as constructed" set of record drawings. The Contractor shall furnish the "Record Set" to the Project Representative following the Final Inspection of the Project.

The Contractor's final estimate and final payment will not be processed until the "Record Set" of drawings are received and approved by the Project Representative.

24. PERMITS

Owner will obtain the following permit(s):

- Wastewater Permit (latrine installation)
- Approach and Encroachment Permits (as required)

Copies of these permits will be provided to the contractor at the pre-construction meeting. The contractor will be responsible for adhering to any and all provisions set forth in the above listed permits.

The contractor will be responsible for obtaining and maintaining a Storm Water Pollution Prevention Plan (SWPPP) permit from the Montana Department of Environmental Quality.

http://www.deq.mt.gov/wqinfo/MPDES/StormwaterConstruction.mcpx

25. PROPOSAL ITEM DESCRIPTIONS AND ESTIMATED QUANTITIES

1. Mobilization, Bonding and Insurance:
   * Description: This bid item includes all equipment, labor and associated work necessary for the transporting of equipment to and from the work site to construct the project to the lines and grades as noted in the specifications and drawings, as well as bonding and insurance costs.

2. Erosion and Sediment Control:
   * Description: This bid item includes the installation, maintenance, and post-construction removal of temporary and/or permanent erosion control devices and Best Management Practices (BMP's) as designated in the specifications and project drawings or as directed by the Project Representative.
     * Estimated Quantity:
     - 3,000 linear feet (Sediment retention, erosion control)

3. Stone Check Dams:
   * Description: This bid item includes the installation and maintenance of permanent stone check dams as designated in the specifications and project drawings or as directed by the Project Representative.
     * Estimated Quantity:
     - 9 each

4. Excavation and Embankment:
   * Description: This bid item includes all equipment, labor and associated work for the excavation, transporting on-site or importing fill material for embankment-in-place, compacting, and disposal of excess material encountered within the construction limits necessary to construct the parking area to the lines and grades as noted in the specifications and drawings.
   * Estimated Quantity:
     - Excavation – 742 cubic yards (includes conserved topsoil)
     - Embankment – 2,231 cubic yards

5. Obliterate Existing Roads and 2-Tracks:
   * Description: This bid item includes all equipment, labor and associated work for obliterating existing roads and 2-track trails as noted in the specifications and drawings.
   * Estimated Quantity:
     - 1,700 square yards

6. 3 " Minus Crushed Subbase Course – 4" Thick:
   * Description: This bid item includes all equipment, labor and associated work for the placement, grading, and compaction of crushed base course material to the lines and grades as noted in the specifications and drawings.
   * Estimated Quantity:
     - 6,800 square yards

7. 3/4" Minus Crushed Base Course – 4" Thick:
   * Description: This bid item includes all equipment, labor and associated work for the placement, grading, and compaction of crushed base course material to the lines and grades as noted in the specifications and drawings.
   * Estimated Quantity:
     - 7,145 square yards

8. 12" CMP Pipe Culvert:
   * Description: This bid item includes all equipment, labor and associated work for installation of 12" diameter CMP culverts under roads where shown on the drawings.
   * Estimated Quantity:
     - 265 linear feet

9. Riprap – 12" Thick:
   * Description: This bid item includes all equipment, labor and associated work for the installation and placement of riprap to the lines and grades as noted in the specifications and drawings.
   * Estimated Quantity:
     - 198 square yards

10. Relocate Concrete Vault Latrine:
   * Description: This bid item includes all equipment, labor and associated work for relocation of existing latrine including excavation, preparation, backfilling, and grading as noted in the specifications and drawings.

11. Remove and Salvage Timber Stairway:
   * Description: This bid item includes all equipment, labor and associated work for the removal, salvaging and stockpiling of the existing timber stairway associated with the existing vault latrine to be relocated.
   * Estimated Quantity:
     - 38 linear feet

12. Timber Stairway:
   * Description: This bid item includes all equipment, labor and associated work for the constructing timber stairway incorporating materials from the removed and salvaged existing timber stairway and providing new materials as needed.
   * Estimated Quantity:
     - 48 linear feet

13. Barrier Rocks:
   * Description: This bid item includes all equipment, labor and associated work for the installation of new barrier rocks to the lines and grades as noted in the specifications and drawings.
   * Estimated Quantity:
     - 18 each

14. Precast Concrete Wheel Stop:
    * Description: This bid item includes all equipment, labor and associated work for installation of precast concrete wheel stops at locations shown on the drawings.
    * Estimated Quantity:
        - 13 each

15. Single Post Sign Installation (FWP supplied sign panels):
    * Description: This bid item includes all equipment, labor and associated work for the installation and placement of sign posts and panels to the lines and grades as noted in the specifications and drawings. FWP will supply all sign panels for the project.
    * Estimated Quantity:
        - 12 each

16. Revegetation:
    * Description: This bid item includes all equipment, labor and associated work for revegetation as noted in the specifications and drawings.